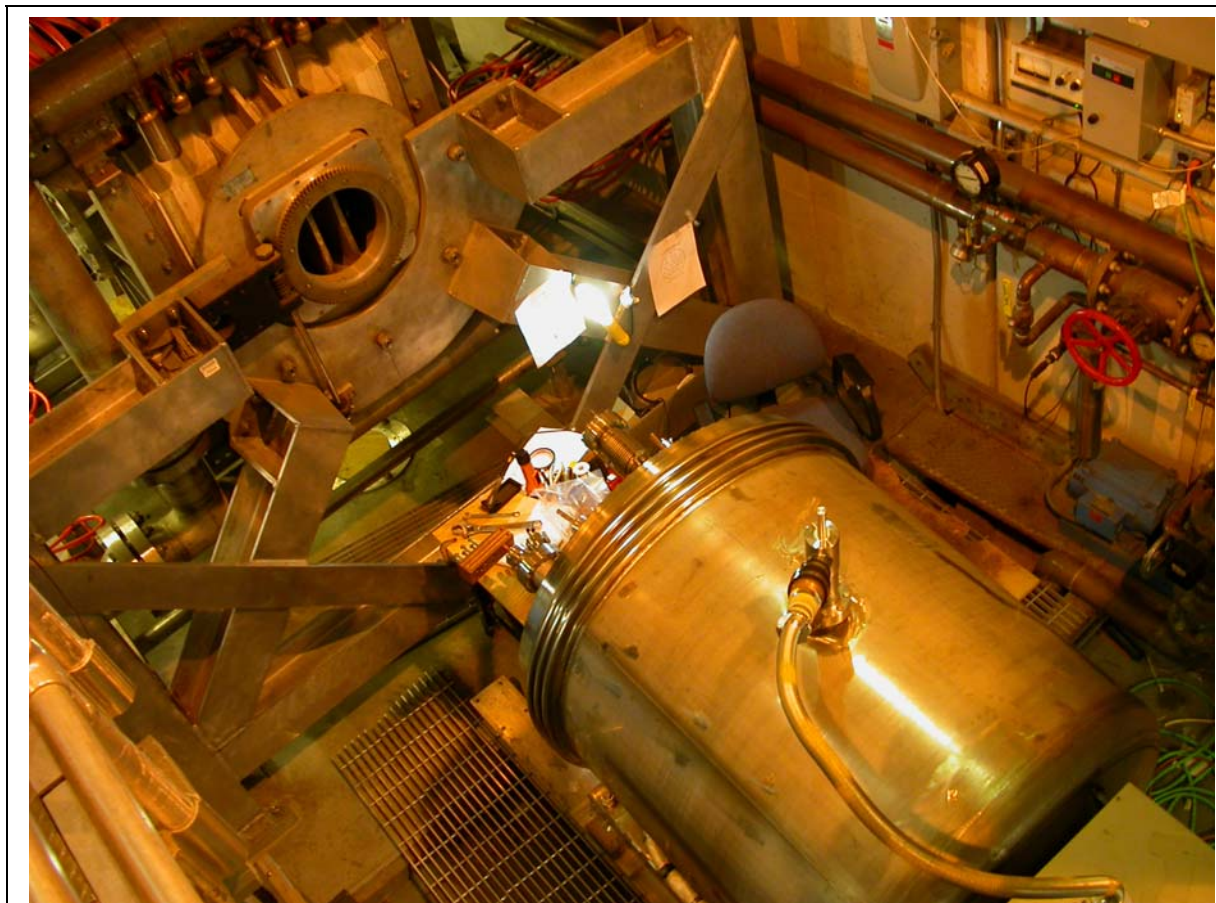
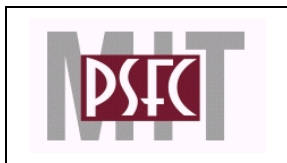


MERIT Magnet Status and Testing Plans

Wednesday Feb 8 2006 VRVS



**Peter H. Titus, MIT
Plasma Science and
Fusion Center**
(617) 253 1344,
titus@psfc.mit.edu,
<http://www.psf.mit.edu/people/titus>



MERIT Pulsed Magnet –In PTF Facility at MIT-PSFC



CERTIFIED BY: CVIP Inc. Emmaus, PA 18049
Phone: (610) 967-1525
www.cvipinc.com

15 TESLA PULSED
MAGNET

SERIAL NO. 2594 YEAR BUILT 12/05



Status:

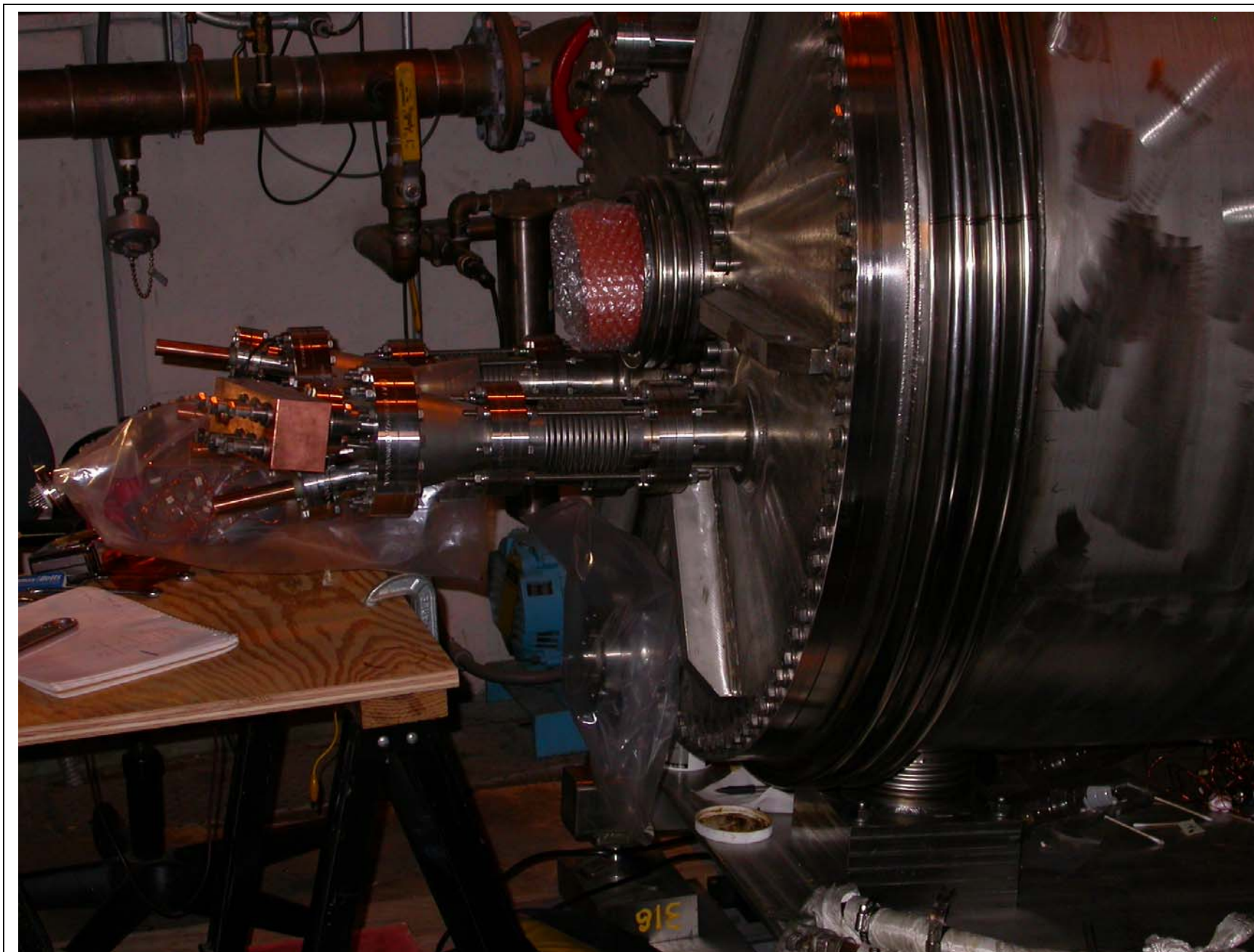
CERNOX leads have been soldered and the 20 pin connector has been closed up with a new copper gasket. Wires have been wrapped with Kapton sheet to insulate exposed surface of power lead.

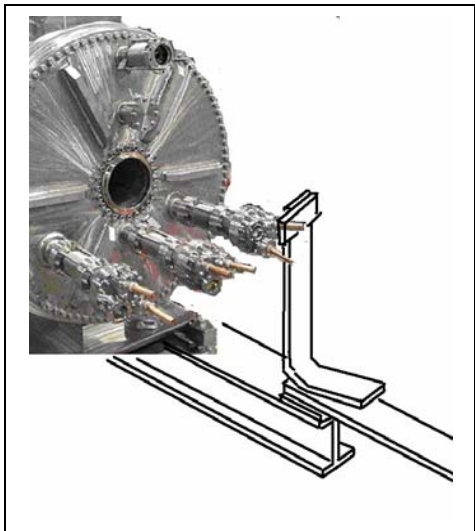
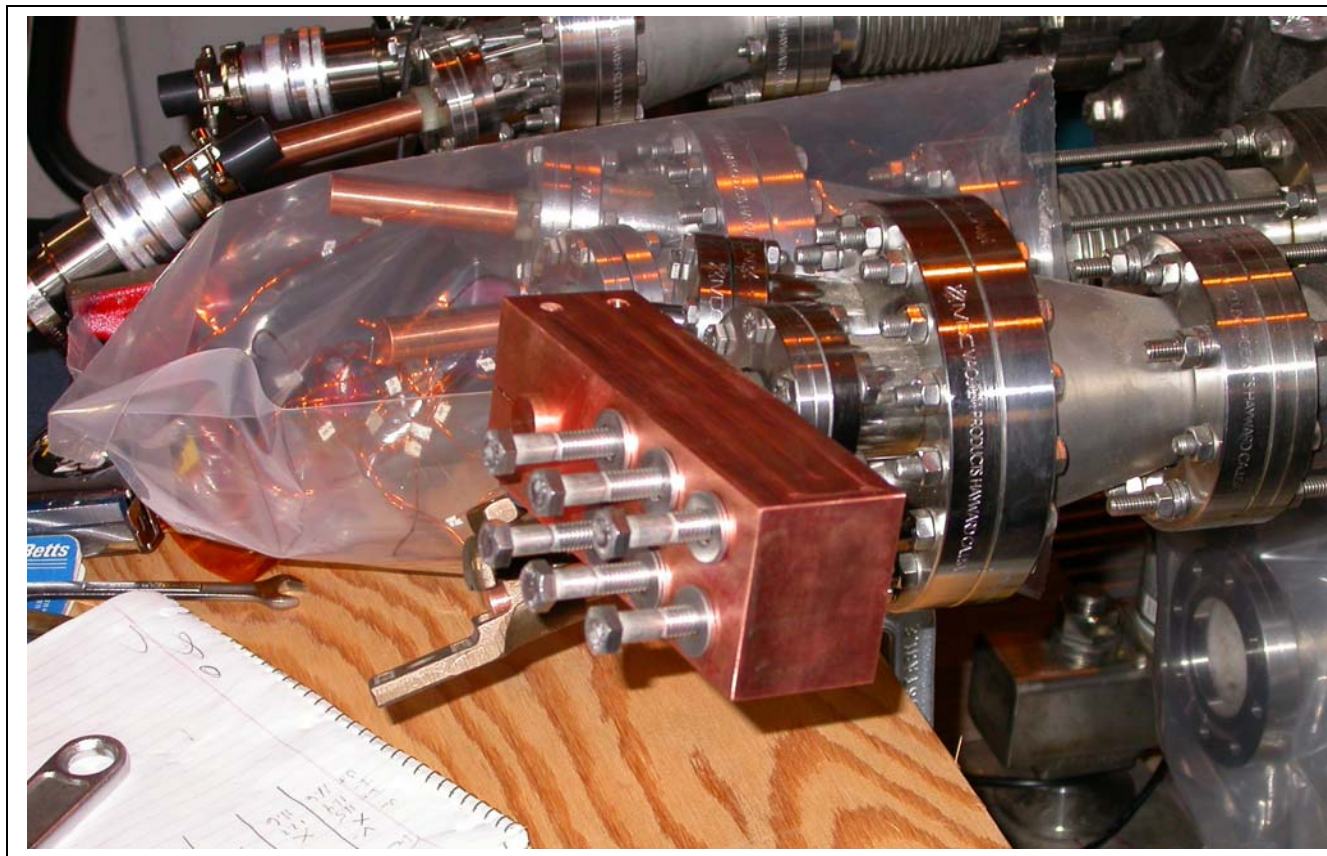
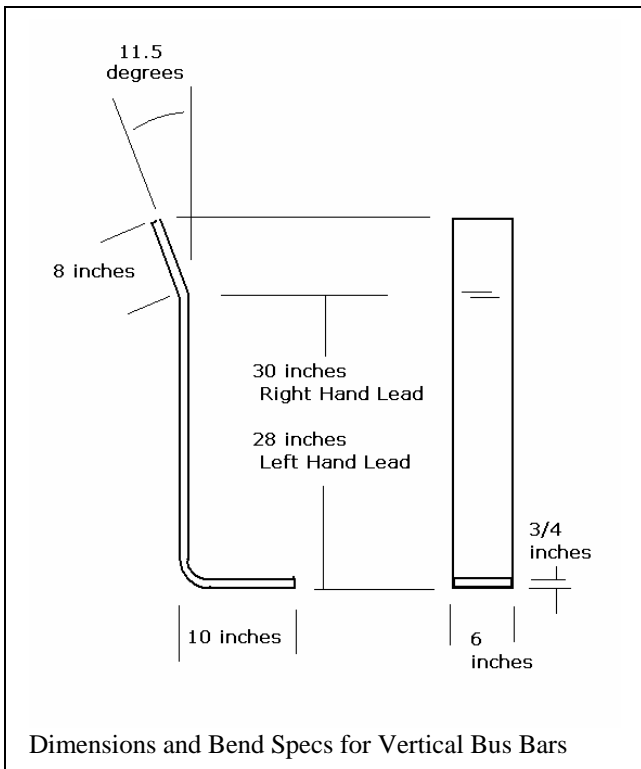
CVIP/Dave Nguyen and Jeff Dorn have supplied CERNOX Calibration documentation.

T2 and T4 are shorted. – No remaining CERNOX on the interior of the assembled coils. We are looking into resistance measurements with a small current supplied by the power supply – I have an outstanding request to Gary Dekow/Phil Michaels to know if the large power supplies can produce a stable 100 amps for 30 seconds .

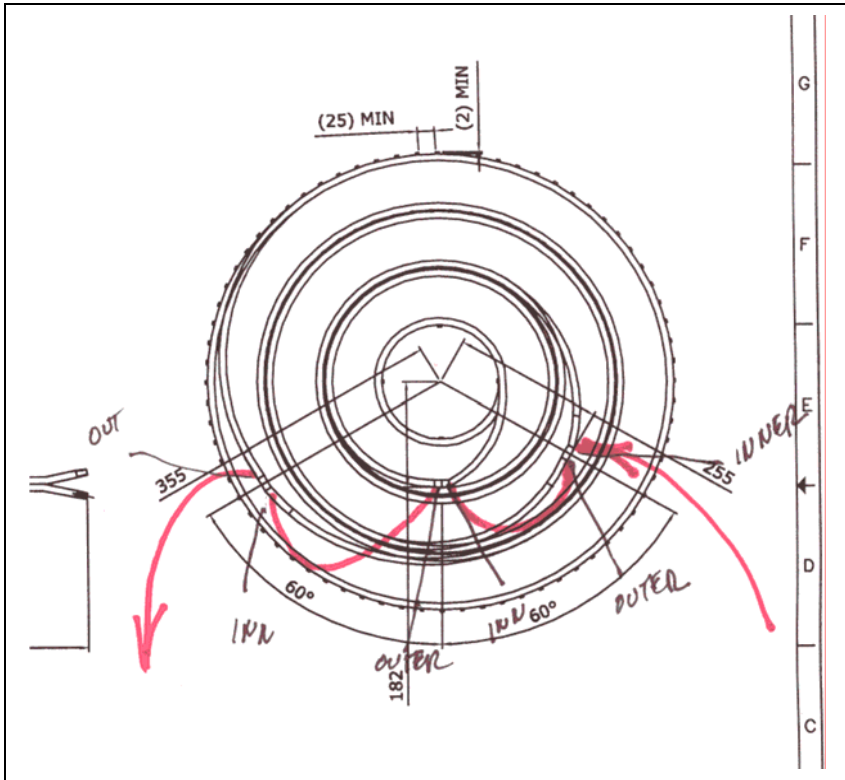
Discrete Level Sensor electronics have been powered up (with 115V). –Seems to be OK. Single diode dunk test this afternoon. Level sensor leads are being soldered to the feedthroughs

Vent pipe components are cut, many are welded. I need to decide what insulation and heat tracing to apply – I will go to Home Depot today.





Jumper Connections



Receipt Inspection and Tests

Vacuum Measurements

Baseline at CVIP	Jan 2006	5 millitorr minimum, 9 millitorr after shut down of vacuum pump, 100 millitorr after sitting over night
After receipt at MIT	Feb 7 2006	9.0 Torr = $9/760 = .012$ atm
After one hour pump down	Feb8 2006	59 millitorr

Magnet Component Magnetic Survey Feb 7 2006

316 components:

Most of the heat effected zones are slightly magnetic. Where the ribs are welded to the cover is slightly magnetic. The cover bolts on the outer bolt circle are slightly magnetic, the high strength bolts at the inner bolt circle are not

304 components

The Vacuum jacket dished head is magnetic. The rolled shell of the vacuum jacket is not magnetic. The loads on the dished heads may be significant.

PTF Test Area Magnetic Materials

In the Test Area

Large Valves Operator Wheels	Magnetic	Remove
Split Pair Ring Gear and Worm Assembly	Magnetic	Remove?
Large Embedded studs in concrete pillar	Non-Magnetic	
PTF water circulating pump	Magnetic	Brace?

Bore Heater Silicon Sheet, 300 Watts (Max) 115v Only installed at the cold end of the bore tube. Manual variable power supply will be used

